VOLUME CONTENTS

Number 1

Rong-Nan Chiou, King-Chu Hung, Jinn-Kwei Guo, Chin-Hsing Chen, Tzu-I Fan and Jau Yien Lee	1	Polyhedron recognition using three-view analysis
Yijia Lin, Jiqing Dou and Hongmei Wang	17	Contour shape description based on an arch height function
G. N. Bebis and G. M. Papadourakis	25	Object recognition using invariant object boundary representations and neural network models
J. Flusser	45	An adaptive method for image registration
Ling-Hwei Chen	55	A two-phase area-level line/edge detector
A. Samal and P. A. Iyengar	65	Automatic recognition and analysis of human faces and facial expressions: a survey
G. Lugosi	79	Learning with an unreliable teacher
F. Y. Shih and Jenlong Moh	89	Implementing morphological operations using programmable neural networks
Yong-Qing Cheng, Yong-Ming Zhuang and Jing-Yu Yang	101	Optimal Fisher discriminant analysis using the rank decomposition
Announcement	113	
Software Survey Section	I	

Number 2

S. Dellepiane, G. Venturi and G. Vernazza	115	Model generation and model matching of real images by a fuzzy approach
V. S. Srinivasan and N. N. Murthy	139	Detection of singular points in fingerprint images
Min-Hong Han and Sangyong Rhee	155	Camera calibration for three-dimensional measurement
H. V. Jagadish and A. M. Bruckstein	165	On sequential shape descriptions
Jianchang Mao and A. K. Jain	173	Texture classification and segmentation using multiresolution simultaneous autoregressive models
P. Cucka and A. Rosenfeld	189	Linear feature compatibility for pattern-matching relaxation

Shiaw-Shian Yu and Wen-Hsiang Tsai 197 Relaxation by the Hopfield neural network

K. P. Chan and Y. S. Cheung 211 Clustering of clusters

Shin-Wen Lee and Wen-Hsing Hsu 219 Parallel algorithms for Hidden Markov Models on the orthogonal multiprocessor

Announcement 233

Erratum 235

Software Survey Section I

Number 3

Han-Bin Kim and Rae-Hong Park 237 Extracting spatial arrangement of structural textures using projection information

Dong-Chen He and Li Wang 247 Unsupervised textural classification of images using the texture spectrum

A. K. Jain and M.-P. Dubuisson 257 Segmentation of X-ray and C-scan images of fiber reinforced composite materials

D. B. Goldgof, H. Lee and T. S. Huang 271 Matching and motion estimation of three-dimensional point and line sets using eigenstructure without correspondences

E. K. Wong 287 Model matching in robot vision by subgraph isomorphism

Suh-Yin Lee and Fang-Jung Hsu 305 Spatial reasoning and similarity retrieval of images using 2D C-string knowledge representation

R. Bergevin and M. D. Levine 319 Extraction of line drawing features for object recognition

N. B. Venkateswarlu and P. S. V. S. K. Raju 335 Fast ISODATA clustering algorithms

Software Survey Section I

Number 4

T. S. Shepherd, W. Uttal, S. Dayanand and R. Lovell 343 A method for shift, rotation, and scale invariant pattern recognition using the form and arrangement of pattern-specific features

J. C. Yen, F. J. Chang and Shyang Chang 357 A new architecture for motion-compensated image coding

J. R. Jordan III and A. C. Bovik 367 Using chromatic information in dense stereo correspondence

R. Krishnapuram and Chih-Pin Freg 385 Fitting an unknown number of lines and planes to image data through compatible cluster merging

D. E. Brown and C. L. Huntley 401 A practical application of simulated annealing to clustering

L. Gupta, A. M. Upadhye, B. Denby, S. R. Amendolia and G. Grieco 413 Neural network trigger algorithms for heavy quark event selection in a fixed target high energy physics experiment

Wen-Shou Chou and Yung-Chang Chen 423 A new fast algorithm for effective training of neural classifiers

L. Goldfarb 431 What is distance and why do we need the metric model for pattern learning?

R. W. Hall 439 Comments on "A parallel-symmetric thinning algorithm" by Bourbakis

Note

A. A. Kooshesh and B. M. E. Moret 443 Three-coloring the vertices of a triangulated simple polygon

Software Survey Section I

Number 5

Chung-Lin Huang and Chi-Hou Wu 445 Dynamic scene analysis using path and shape coherence

A. Goshtasby 463 Gaussian decomposition of two-dimensional shapes: a unified representation for CAD and vision applications

Ja-Chen Lin, Sheng-Lin Chou and Wen-Hsiang Tsai 473 Detection of rotationally symmetric shape orientations by fold-invariant shape-specific points

E. Bribiesca 483 A geometric structure for two-dimensional shapes and three-dimensional surfaces

S. Pal and P. Bhattacharyya 497 Analysis of template matching thinning algorithms

Yijia Lin, Jiqing Dou and Eryi Zhang 507 Edge expression based on tree structure

Chienchung Chang and S. Chatterjee 519 A hybrid approach toward model-based texture segmentation

F. Y. Shih, Jenlong Moh and Fu-Chun Chang 533 A new ART-based neural architecture for pattern classification and image enhancement without prior knowledge

Hsi-Jian Lee and Bin Chen 543 Recognition of handwritten Chinese characters via short line segments

Announcement 553

Software Survey Section I

Number 6

I. Pitas and A. N. Venetsanopoulos 555 Morphological shape representation

N. Bourbakis and C. Alexopoulos 567 Picture data encryption using scan patterns

S. Z. Li 583 Matching: invariant to translations, rotations and scale changes

Dong-Chen He and Li Wang 595 Detecting texture edges from images

K. Hirota and W. Pedrycz 601 Prototype construction and evaluation as inverse problems in pattern classification

P. M. Griffin, L. S. Narasimhan and S. R. Yee 609 Generation of uniquely encoded light patterns for range data acquisition

Y. Liu and T. S. Huang 617 Three-dimensional motion determination from real scene images using straight line correspondences

M. Abdel-Mottaleb and A. Rosenfeld 641 Inexact Bayesian estimation

O. E. Facey, I. D. Hannah and D. Rosen 647 Analysis of low-pass filtered shoeprints and pedobarograph images

K. T. Blackwell, T. P. Vogl, S. D. Hyman, G. S. Barbour and D. L. Alkon 655 A new approach to hand-written character recognition

Software Survey Section I

Number 7

D. Chaudhuri, C. A. Murthy and B. B. Chaudhuri 667 A modified metric to compute distance

Wei-Chung Lin, E. Chen-Kuo Tsao and Chin-Tu Chen 679 Constraint satisfaction neural networks for image segmentation

P. L. Rosin, A. C. F. Colchester and D. J. Hawkes 695 Early image representation using regions defined by maximum gradient paths between singular points

R. N. Dave 713 Generalized fuzzy c-shells clustering and detection of circular and elliptical boundaries

Yajun Li 723 Reforming the theory of invariant moments for pattern recognition

Ke Liu, Yong-Qing Cheng and Jing-Yu Yang 731 A generalized optimal set of discriminant vectors

R. V. Shankar and S. Ranka 741 Hypercube algorithms for operations on quadtrees

A. J. Gray, J. W. Kay and D. M. Titterington 749 On the estimation of noisy binary Markov random fields

Corrigendum 769

Software Survey Section I

Number 8

D. D. Sheu and A. H. Bond 771 A generalized method for 3D object location from single 2D images

S. Chattopadhyay and P. P. Das 787 Estimation of the original length of a straight line segment from its digitization in three dimensions

A. Nyeck, H. Mokhtari and A. Tosser-Roussey 799 An improved fast adaptive search algorithm for Vector Quantization by progressive codebook arrangement

A. D. Brink 803 Thresholding of digital images using two-dimensional entropies

D. Sudhanva and K. C. Gowda 809 Dimensionality reduction using geometric projections: a new technique

P. P. Ohanian and R. C. Dubes 819 Performance evaluation for four classes of textural features

H. Q. Lu and J. K. Aggarwal 835 Applying perceptual organization to the detection of man-made objects in non-urban scenes

J.-J. Leou, Y.-L. Chang and J.-S. Wu 855 Robot operation monitoring for collision avoidance by image sequence analysis

R. A. Morris 869 Classification of digital typefaces using spectral signatures

K. W. Gan and K. T. Lua 877 Chinese character classification using an adaptive resonance network

T. Y. T. Chan and L. Goldfarb 883 Primitive pattern learning

Erratum 891

Software Survey Section I

Number 9

D. C. Wilson and E. A. Geiser 893 Automatic center point determination in two-dimensional short-axis echocardiographic images

R. N. Strickland and Z. Mao 901 Computing correspondences in a sequence of non-rigid shapes

S. Pei and C. Lin 913 Normalization of rotationally symmetric shapes for pattern recognition

F. Y. Shih and C. C. Pu 921 Morphological shape description using geometric spectrum on multidimensional binary images

I. Pitas and C. Kotropoulos 929 A texture-based approach to the segmentation of seismic images

S. M. Bhandarkar and A. Siebert 947 Integrating edge and surface information for range image segmentation

T. Kaneko 963 Line structure extraction from line-drawing images

L. Spirkovska and M. B. Reid 975 Robust position, scale, and rotation invariant object recognition using higher-order neural networks

S. M. Bhandarkar and M. Suk 987 Qualitative features and the Generalized Hough Transform

R. K. K. Yip, P. K. S. Tam and D. N. K. Leung 1007 Modification of Hough transform for circles and ellipses detection using a 2-dimensional array

K.-Y. Chang and G. Y. Tang 1023 A data compression method on Chinese fonts using classification techniques

N. Sarkar and B. B. Chaudhuri 1035 An efficient approach to estimate fractal dimension of textural images

A. Asano, K. Itoh and Y. Ichioka 1043 RONDO: rank-order based nonlinear differential operator

A. Choudhary and S. Ranka 1061 Mesh and pyramid algorithms for iconic indexing

Letters to the Editor

L. I. Kuncheva 1069 A critical comment on the paper "Designing of classification procedures with the use of equality and difference operators"

W. Pedrycz 1071 Author's reply

Announcements 1073

Software Survey Section I

Number 10

I-C. Chang and C.-L. Huang 1075 Aspect graph generation for non-convex polyhedra from perspective projection view

F. Y. Shih and H. Wu 1097 Decomposition of geometric-shaped structuring elements using morphological transformations on binary images

P. W. M. Tsang, P. C. Yuen and F. K. Lam 1107 Recognition of occluded objects

M. Dai, P. Baylou and M. Najim 1119 An efficient algorithm for computation of shape moments from run-length codes or chain codes

J. A. Ventura and J.-M. Chen 1129 Segmentation of two-dimensional curve contours

J. Mukherjee, P. P. Das and B. N. Chatterji 1141 Segmentation of range images

R. Lovell, W. R. Uttal, T. Shepherd and S. Dayanand 1157 A model of visual texture discrimination using multiple weak operators and spatial averaging

L.-H. Chen and S. Chang 1171 A video tracking system with adaptive predictors

E. R. Dougherty, J. T. Newell and J. B. Pelz 1181 Morphological texture-based maximum-likelihood pixel classification based on local granulometric moments

M. M. S. Chong, R. K. L. Gay, H. N. Tan and J. Liu 1199 Automatic representation of fingerprints for data compression by B-spline functions

P.-K. Wong and C. Chan 1211 A robust real-timed recognizer of printed Chinese characters

C.-L. Huang, T.-Y. Cheng and C.-C. Chen 1217 Color images' segmentation using scale space filter and Markov random field

T. Kurita, N. Otsu and N. Abdelmalek 1231 Maximum likelihood thresholding based on population mixture models

M. T. Musavi, K. H. Chan, D. M. Hummels, K. Kalantri and W. Ahmed 1241 A probabilistic model for evaluation of neural network classifiers

V. V. Vinod, S. Chaudhury, S. Ghose and J. Mukherjee 1253 A connectionist approach for peak detection in Hough space

K.-L. Chung 1265 A randomized parallel algorithm for string matching on hypercube

S. O. Belkasim, M. Shridhar and M. Ahmadi 1269 Pattern classification using an efficient KNNR

Announcement 1275

Software Survey Section I

Number 11

P. E. Trahanias 1277 Binary shape recognition using the morphological skeleton transform

I. Tchoukanov, R. Safaee-Rad, K. C. Smith and B. Benhabib 1289 The angle-of-sight signature for two-dimensional shape analysis of manufactured objects

S.-C. Pei and C.-N. Lin 1307 The detection of dominant points on digital curves by scale-space filtering

P. L. Rosin 1315 Representing curves at their natural scales

Y.-N. Sun and C.-T. Tsai 1327 A new model-based approach for industrial visual inspection

C.-C. Hsieh and H.-J. Lee 1337 Off-line recognition of handwritten Chinese characters by on-line model-guided matching

S.-B. Cho and J. H. Kim 1353 Recognition of large-set printed Hangul (Korean script) by two-stage backpropagation neural classifier

V. L. Brailovsky and Y. Kempner 1361 Application of piece-wise regression to detecting internal structure of signal

M. Abdel-Mottaleb and A. Rosenfeld 1371 "Qualitative" Bayesian estimation of digital signals and images

C. Tao 1381 A generalization of discrete hidden Markov model and of *Viterbi Algorithm*

R. S. Valiveti and B. J. Oommen 1389 On using the chi-squared metric for determining stochastic dependence

L. Gupta, J. Wang, A. Charles and P. Kisatsky 1401 Prototype selection rules for neural network training

Announcements 1409

Software Survey Section I

Number 12

Y. F. Wang and D. I. Cheng 1411 Three-dimensional shape construction and recognition by fusing intensity and structured lighting

W. Wen and A. Lozzi 1427 Recognition and inspection of two-dimensional industrial parts using subpolygons

C.-L. Huang and C.-W. Chen 1435 Human facial feature extraction for face interpretation and recognition

L. Y. Tseng and C. T. Chuang 1445 An efficient knowledge-based stroke extraction method for multi-font Chinese characters

A. K. Jain and S. K. Bhattacharjee 1459 Address block location on envelopes using Gabor filters

R. Mehrotra, K. R. Namuduri and N. Ranganathan 1479 Gabor filter-based edge detection

J. K. Paik, J. C. Brailean and A. K. Katsaggelos 1495 An edge detection algorithm using multi-state ADALINES

K. Qian and P. Bhattacharya 1505 A template polynomial approach for image processing and visual recognition

M. A. Sid-Ahmed 1517 A hardware structure for the automatic selection of multi-level thresholds in digital images

T. F. Li and S. W. Chang 1529 A quick method for estimation of parameters of individual pulses in a multipath signal

Y. Sato 1535 Piecewise linear approximation of plane curves by perimeter optimization

Letter to the Editor

Y.-S. Chen 1545 Comments on "A systematic approach for designing 2-subcycle and pseudo 1-subcycle parallel thinning algorithms"

Announcement 1547

Software Survey Section I

Volume Contents and Author Index for Volume 25, 1992 V